

## CLAIMS

1. (currently amended) An apparatus for controlling the composition of gases within a container,

said container including a plurality of walls[[,]] and an opening selected from the group consisting of at least one inlet, at least one outlet, or inlet and outlet combinations thereof,

the apparatus including at least one sensor, at least one controller and at least one gas permeable membrane ~~being adapted~~ to facilitate [[the]] passage there through of different molecules at different rates,

said membrane defining a first region and a second region, [[the]] said first region forming a storage compartment [[being]] for holding cargo and [[the]] said second region defining a gas buffer region, said opening at least one inlet, outlet, or inlet and outlet being in communication with said gas buffer region.

2. (currently amended) An apparatus according to claim 1, wherein said opening at least one of said at least one inlet, outlet, or inlet and outlet includes a valve.

3. (currently amended) An apparatus according to claim 1, wherein said container comprises at least two openings selected from the group consisting of which includes at least two inlets, at least two outlets, or two inlets and outlets combinations thereof.

4. (previously presented) An apparatus according to claim 1, wherein said membrane is selectively permeable.

5. (currently amended) An apparatus according to claim 1, wherein a valve is adapted to open when activated by [[the]] said controller to provide a passage through which gases can move flow into, out of, or into and out of the container.

6. (currently amended) An apparatus according to claim 1, wherein [[the]] said controller is adapted to open a valve when a concentration or volume of gas within

[[the]] said container reaches or falls to a specified level.

7. (currently amended) An apparatus according to claim 1, wherein [[the]] said container is a building.

8. (currently amended) An apparatus according to claim 7 wherein [[the]] said building is a cool store.

9. (currently amended) An apparatus according to claim 1, ~~wherein the~~ said apparatus [[is]] adapted ~~to provide an apparatus~~ for a transportation or shipping container, said container being substantially rectangular in shape and including two side walls, a roof, a floor, a rear wall and a front wall where the rear wall provides access into an interior of the container.

10. (currently amended) An apparatus according to claim 1, wherein said combination of inlet and outlet ~~the inlet may be joined with an outlet to provide a~~ bidirectional provides a bi-directional flow means.

11. (currently amended) An apparatus according to claim 1, wherein [[the]] said container comprises at least one bi-directional flow means located at the rear of the container and at least one bi-directional flow means located at the front of the container, and each of said bi-directional flow means [[including]] includes one valve.

12. (currently amended) An apparatus according to claim 1, wherein said selectively permeable membrane is formed from a polymeric film, which is adapted for gas permeation.

13. (currently amended) An apparatus according to claim 12, wherein said polymeric film is [[being]] more permeable to carbon dioxide gas than to oxygen gas.

14. (currently amended) An apparatus according to claim 12, wherein said

polymeric film is affixed to at least a portion of a base, a roof and two sidewalls of [[the]] said container, [[the]] said polymeric film dividing [[the]] said container into [[two]] said first and second regions, [[the]] said first region being adapted as a storage compartment and being located near the front of [[the]] said container, and [[the]] said second region being adapted as a gas buffer region [[being]] located at the rear of said container and near the a door end of the container.

15. (currently amended) An apparatus according to claim 12, wherein said polymeric film is located substantially near a rear portion of [[the]] said container.

16. (currently amended) An apparatus according to claim 12,  
wherein said combination of inlet and outlet provides at least one bi-directional flow means, and

wherein said polymeric film provides ~~a void or buffering~~ said gas buffer region around ~~at least one~~ said bi-directional flow means which is adapted to control the flow of gas into [[the]] said gas buffer region and to control the flow of [[gases]] gas out of [[the]] said gas buffer region both into [[the]] said storage compartment and completely out of [[the]] said container.

17. (currently amended) An apparatus according to claim 1, wherein said gas permeable membrane is adapted to facilitate [[the]] flow of carbon dioxide gas from [[the]] said first region cargo compartment of the container to the ~~gas~~ said gas buffer region of the container.

18. (currently amended) An apparatus according to claim 1, wherein said gas permeable membrane is adapted to facilitate [[the]] flow of oxygen gas from the ~~gas~~ said gas buffer region of [[the]] said container to [[the]] said first region storage compartment of [[the]] said container.

19. (currently amended) An apparatus according to claim 1, wherein said gas permeable membrane is adapted to allow oxygen gas to flow through [[the]] said

membrane~~[[,]] provided that the oxygen flow in a direction~~ in a direction ~~[[is]] opposite to a carbon dioxide gas flow.~~

20. (currently amended) An apparatus according to claim 1, wherein [[a]] said at least one sensor located within [[the]] said container [[being]] is adapted to sense [[a]] ~~concentration concentrations,~~ volumes or ~~[[concentration]] concentrations~~ and volumes of carbon dioxide gas, oxygen gas or carbon dioxide and oxygen gases within ~~[[the]]~~ said first region cargo storage compartment of [[the]] said container.

21. (currently amended) An apparatus according to claim 1, ~~[[comprising]]~~ wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a rear end of [[the]] said container, said bi-directional flow means ~~being able to open to allow~~ allowing gas to flow into ~~[[the]] said gas buffer region when in an open configuration.~~

22. (currently amended) An apparatus according to claim 1, ~~[[comprising]]~~ wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a rear end of [[the]] said container, said bi-directional flow means ~~being able to open an inlet so that~~ allowing gas ~~[[may]] to flow into the cargo said first region of [[the]] said container when in an open configuration.~~

23. (currently amended) An apparatus according to claim 1, ~~[[comprising]]~~ wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a front end of [[the]] said container, said bi-directional flow means ~~being able to open to allow~~ allowing gas to flow into ~~[[the]] said gas buffer region when in an open configuration.~~

24. (currently amended) An apparatus according to claim 1, ~~[[comprising]]~~ wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a front end of [[the]] said container, said bi-directional flow means ~~being able to open an inlet so that~~ allowing gas ~~[[may]] to flow~~

into the ~~cargo~~ said first region of the container when in an open configuration.

25. (currently amended) A container having a plurality of walls~~[[,]]~~ and an opening selected from a group consisting of at least one inlet, at least one outlet, or inlet and outlet combinations thereof, including comprising an apparatus for controlling a composition of gases within the container,

[[the]] said apparatus including at least one sensor, at least one controller and at least one gas permeable membrane being adapted to facilitate [[the]] passage there through of different molecules at different rates,

said membrane defining a first region and a second region, [[the]] said first region forming a storage compartment [[being]] for holding cargo and [[the]] said second region defining a gas buffer region,

said opening ~~at least one inlet, outlet, or inlet and outlet~~ being in communication with said gas buffer region and comprising a valve that controls gas flow through said opening.

26. (currently amended) A container according to claim 25, wherein said ~~membrane defines a gas~~ gas buffer region is located on the inside of said container.

27. (currently amended) A container according to claim 25, wherein said ~~membrane defines a gas~~ gas buffer region is located on the [[exterior]] outside of said container.